

REMARKS

In the December 29, 2005 Office Action, the Examiner noted that claims 1-24 were pending in the application; objected to claim 4; and rejected claims 1-3 and 5-24 under 35 USC § 103(a). In rejecting the claims, the Examiner cited U.S. Patents 6,539,118 to Murray et al.; 6,269,188 to Jamali; 6,327,386 to Mao et al.; and 6,473,754 to Matsubayashi et al. (References A-C and E in the March 24, 2005 Office Action) and "Nishiwaki (US 6535619)." Claims 1-24 remain in the case. The rejections are traversed below.

It is not entirely clear what newly cited reference was intended to be used in rejecting the claims. "Nishiwaki (US 6535619)" was identified on page 2 in the paragraph numbered "3." However, U.S. Patent No. 6,535,619 was issued to Suwa et al. and is listed on form PTO-892 attached to the December 29, 2005 Office Action as Reference B, while U.S. Patent No. 6,738,519 was issued to Nishiwaki (Reference A on form PTO-892). Only U.S. Patent No. 6,738,519 has numerals in the drawings that match the reference numerals used in the Office Action; therefore, it will be assumed that the name of the reference, not the patent number, was correct in the December 29, 2005 Office Action.

In item 3 on pages 2-4 of the Office Action, claims 1-3, 5-7, 15, 17 and 24 were rejected as unpatentable over Murray et al. in view of Nishiwaki. In rejecting claim 1, it was asserted that Murray et al. discloses the limitations in claim 1 as originally filed "as detailed and describe[d] in the prior office action dated 3/24/2005" (December 29, 2005 Office Action, page 2, lines 23-24). The March 24, 2005 Office Action asserted that "extracting a code string of a key word" (claim 1, line 2) was disclosed by Figs. 1, 3 and 4; and column 4, line 50 to column 5, line 15 of Murray et al. (see page 3, lines 18-22). Following the citation is the statement "Latin letter Á (Latin letter "A" with acute) is an example of key character code for Latin-1 languages.)" However, this statement does not explain how anything in the cited portion of Murray et al. discloses extracting a "key word" as recited on line 2 of claim 1.

Contrary to the assertions in the March 24, 2005 Office Action, Murray et al. is concerned with determining a language type (e.g., Japanese, English, ...) of an unknown language that is input as a set of text data. The language type determination is conducted by recognizing a set of bit data (Fig. 7 of Murray et al.) that represents language type based on a specification such as the UNICODE example in Fig. 7. Murray et al. is concerned with processing bit data (see Figs. 3, 4 and 7) using a "bit mask" (see Figs. 2, 5 and 6). This objective of Murray et al. is further clarified by the statement in the Background of the Invention section that "the problem of operating system or application software being unable to display text in different languages

remains" (column 1, lines 46-48) and is expressed as "a need for ... automated language handling" (column 1, lines 57-58). There is no suggestion in any of these statements, or anything else that has been found in Murray et al., regarding extraction of a "key word" as recited on line 2 of claim 1.

Since Murray et al. was relied on as teaching extraction of a key word, it is submitted that at least claim 1 and claim 15 (which also recites this limitation), as well as claims 2, 3 and 5-7 which depend from claim 1 patentably distinguish over the cited prior art for this reason.

In the paragraph spanning pages 2 and 3 of the December 29, 2005 Office Action, blocks S11 and S21 in Fig. 2; Fig. 10; and column 3, lines 57-62 of Nishiwaki were cited as disclosing "a method of character recognition that includes inputting a[n] image of the character st[r]ing and segmenting the character string in to the individual character[s] in order to recognize them" (December 29, 2005 Office Action, page 3, lines 1-3). This is a fairly accurate description of these portions of Nishiwaki which relate to "character segmentation ... producing character candidate patterns character by character for ... [a] character string image" (column 3, lines 59-61). However, it is submitted that this teaching in Nishiwaki does not overcome the deficiencies of Murray et al. discussed above, because neither reference teaches or suggests "extracting as key word characters, a string of characters corresponding to the code string of the key word" (claim 1, lines 6-7). Therefore, it is submitted that claims 1-3, 5-7 and 15 patentably distinguish over Murray et al. in view of Nishiwaki for the reasons discussed above with respect to Murray et al. taken alone.

Furthermore, as discussed in the communication filed September 12, 2005, Murray et al. does not teach anything regarding recognition of character images, such as those obtained from handwritten characters, and Nishiwaki teaches only a method of handwritten character recognition. Nothing has been cited or found in either reference providing any suggestion for one of ordinary skill in the art to combine the teachings of these references for "extracting a partial area falling between extracted key words from the image of the character string; and ... recognizing a character string in the partial area" (claim 1, lines 8-10). Given the lack of key word recognition in either reference, there is no suggestion of defining the partial area used for character string recognition in the manner recited in claim 1. Similar limitations are recited in claim 15. Therefore, it is submitted that claims 1-3, 5-7 and 15 patentably distinguish over Murray et al. in view of Nishiwaki for at least the reasons discussed above.

Claim 17 recites "extracting a character string as a key word if a part of the character string in the key word is extracted when a key character or a key word stored in said key

character/word storage unit is extracted from the image of the character string to be recognized" (claim 17, last 4 lines). As discussed above with respect to claim 1, neither Murray et al. and Nishiwaki, individually or together, do not teach or suggest anything related to key words. Therefore, it is submitted that claim 17 patentably distinguishes over Murray et al. in view of Nishiwaki for at least this reason.

Claim 24 recites "defining a character string having a large number of occurrences as a key word" (claim 24, lines 5-6). As discussed above with respect to claim 1, neither Murray et al. and Nishiwaki, individually or together, do not teach or suggest anything related to key words. Therefore, it is submitted that claim 24 patentably distinguishes over Murray et al. in view of Nishiwaki for at least this reason.

In item 4 on pages 4-5, claims 8 and 10 were rejected as unpatentable over Murray et al. in view of Nishiwaki and further in view of Jamali. Nothing was cited or found in Jamali that overcomes the deficiencies of Murray et al. in view of Nishiwaki discussed above with respect to claim 1. Since claims 8 and 10 depend from claim 1, it is submitted that claims 8-10 patentably distinguish over Murray et al. in view of Nishiwaki and Jamali for the reasons discussed above with respect to claim 1.

In item 5 on pages 5-6, claims 9, 11, 16 and 20-22 were rejected as unpatentable over Murray et al. in view of Nishiwaki and further in view of Matsubayashi et al. In rejecting claim 9, it was asserted that Figs. 5-8 and column 9, lines 27-67 of Matsubayashi et al. "discloses a system for extracting character strings, wherein when the code string ... the key words" (December 29, 2005 Office Action, page 5, lines 11-12). Although these words do not contain a coherent statement, it is understood that the Examiner believes Matsubayashi et al. is relevant to the key word limitations recited in at least claims 9, 16 and 20-22. In addition, "Figure 23; Column 27, lines 60-67, Column 24, lines 1-22" (Office Action, page 6, line 4) were cited as disclosing the limitations recited in claim 11. Since column 24, lines 1-22 are not related to Fig. 23 and followed the citation of column 27, lines 60-67, it is assumed that there was a typographical error and the intent was to cite column 27, line 60 to column 28, line 22 which contain two full paragraphs.

The cited drawings of Matsubayashi et al. include Figs. 5 and 6 which are tables of occurrence frequency and probabilities, respectively, for certain Japanese (Kanji) characters and Figs. 7 and 8 which show "a processing example when a program for comparison of division probabilities and for extraction of a characteristic string is applied to a Kanji character string" (column 13, lines 26-29). Column 9, lines 27-67 of Matsubayashi et al. describes storing

occurrence information as illustrated in Fig. 5 and calculating occurrence probabilities of "n-grams" from the occurrence information, where an "n-grams" are defined as "character strings each having n continual characters of a type ... such as 'Kanji' or 'Katakana'" (column 2, lines 40-42). Column 27, line 60 to column 28, line 22 of Matsubayashi et al. describes extraction of a "character string ... of head to third characters as characteristic string" (column 28, lines 21-22) where the ellipsis (...) replaced three Kanji characters.

Even if it is assumed that the "characteristic string" of Matsubayashi et al. is equivalent to the "key word" recited in the claims of the subject application, nothing was cited or found regarding "extracting a partial area falling between extracted key words from the image of the character string; and ... recognizing a character string in the partial area" (claim 1, lines 8-10). Since claims 9 and 11 depend from claim 1, it is submitted that claims 9 and 11, as well as claims 1-8, 10 and 12-14 which also depend from claim 1 and claim 15 which recites similar limitations patentably distinguish over Murray et al. in view of Nishiwaki and Matsubayashi et al. at least due to the failure of this combination to teach or suggest the limitations recited on lines 8-10 of claim 1 and the last four lines of claim 15.

Claim 21 recites "recognizing individual character images in an image of a character string to identify a word for each area delimited by each key character or key word in the character string image to be recognized" (claim 21, last 3 lines). As discussed above with respect to claim 1, Murray et al. in view of Nishiwaki and Matsubayashi et al., does not teach or suggest defining an area of character recognition based on key words (or key characters). Therefore, it is submitted that claim 21 patentably distinguishes over Murray et al. in view of Nishiwaki and Matsubayashi et al. for at least this reason.

In item 6 on pages 6-8, claims 12-14, 18 and 19 were rejected as unpatentable over Murray et al. in view of Nishiwaki and further in view of Mao et al. Nothing was cited or has been found in Mao et al. suggesting modification of Murray et al. and Nishiwaki to overcome the deficiencies discussed above with respect to claim 1. Since claims 12-14 depend from claim 1, it is submitted that claims 12-14 patentably distinguish over Murray et al. in view of Nishiwaki and Mao et al. for the reasons discussed above with respect to claim 1 and Murray et al. in view of Nishiwaki.

In item 7 on page 8 of the Office Action, claim 23 was rejected as unpatentable over Murray et al. in view of Nishiwaki, Jamali and Matsubayashi et al. Like claim 21, claim 23 recites "recognizing individual character images in an image of a character string to identify a word for each area delimited by each key character or key word in the character string image to be

recognized" (claim 23, last 3 lines). Nothing was cited or has been found in Jamali suggesting modification of Murray et al., Nishiwaki and Matsubayashi et al. to overcome the deficiencies noted above with respect to claims 1 and 21. Therefore, it is submitted that claim 23 patentably distinguishes over Murray et al. in view of Nishiwaki, Jamali and Matsubayashi et al. for the reasons discussed above with respect to claim 21.

Request for Examiner Interview

An Examiner Interview prior to issuance of another Office Action is respectfully requested to expedite the process of the Examiner explaining how Murray et al. is relevant to the extracting a key word, as recited in claims 1 and 15.

Summary

It is submitted that the references cited by the Examiner do not teach or suggest the features of the present claimed invention. Thus, it is submitted that claims 1-24 are in a condition suitable for allowance. Reconsideration of the claims and an early Notice of Allowance are earnestly solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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